Energy Efficiency Funds and Demand Response Programs – National Overview

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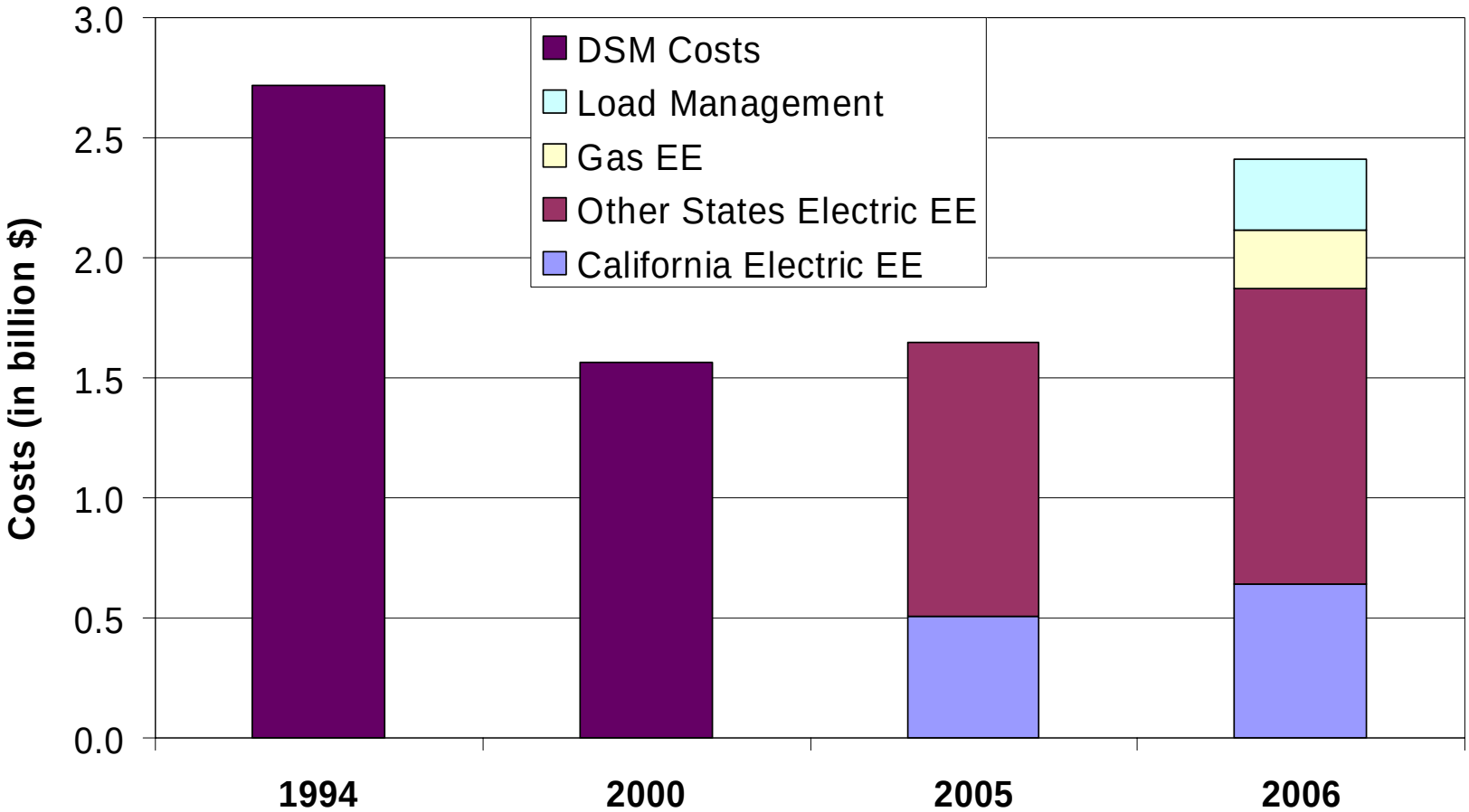
Overview of Talk

- National Overview
- Energy Efficiency Programs and Funds
- Demand Response Programs and Funds
- FEMP Resources on Public Benefit Funds
- Suggestions for Federal Customers

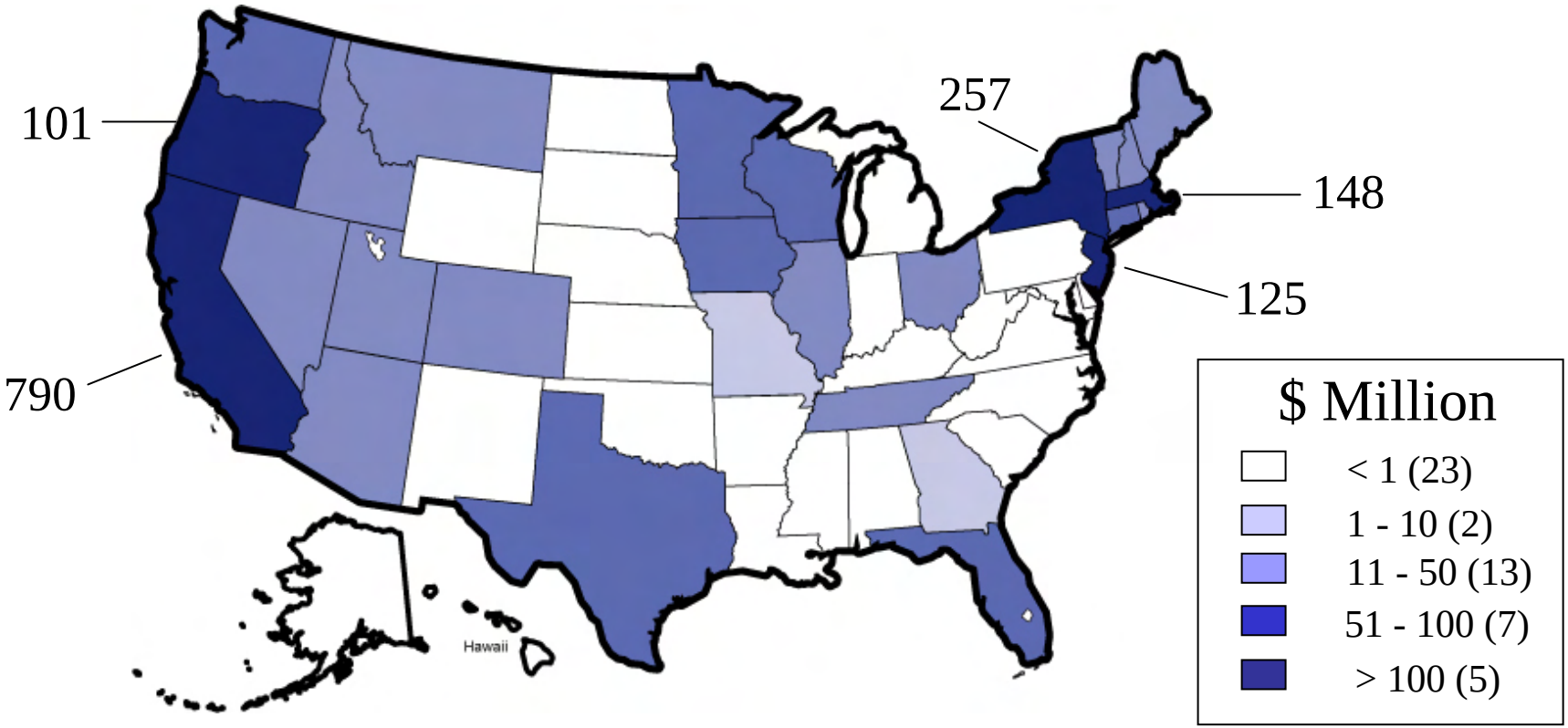
DSM Spending is increasing!



- 2006 Utility DSM and Public Benefit spending is ~$2.5B$
  - $1B for C&I EE programs
- CA utilities account for 35% of total spending

U.S. Department of Energy
Energy Efficiency and Renewable Energy

EE Spending in 2006
(by State)



- 30 state PUCs have directed utilities and/or public benefit administrators to invest in energy efficiency
- Top five states account for 64% of Total EE funding

Drivers to Watch in Energy Efficiency

- Renewed Interest in IRP among many state PUCs
- DOE/EPA National Action Plan for Energy Efficiency
- ISO-NE Forward Capacity Market
  - Demand-side resources can participate in auctions
- Regional Greenhouse Gas Initiative(s) (RGGI)
- Utility Industry Initiatives
  - EPRI EE Technology Initiative: “Prices to Devices”

Federal Participation in Public Benefit programs?

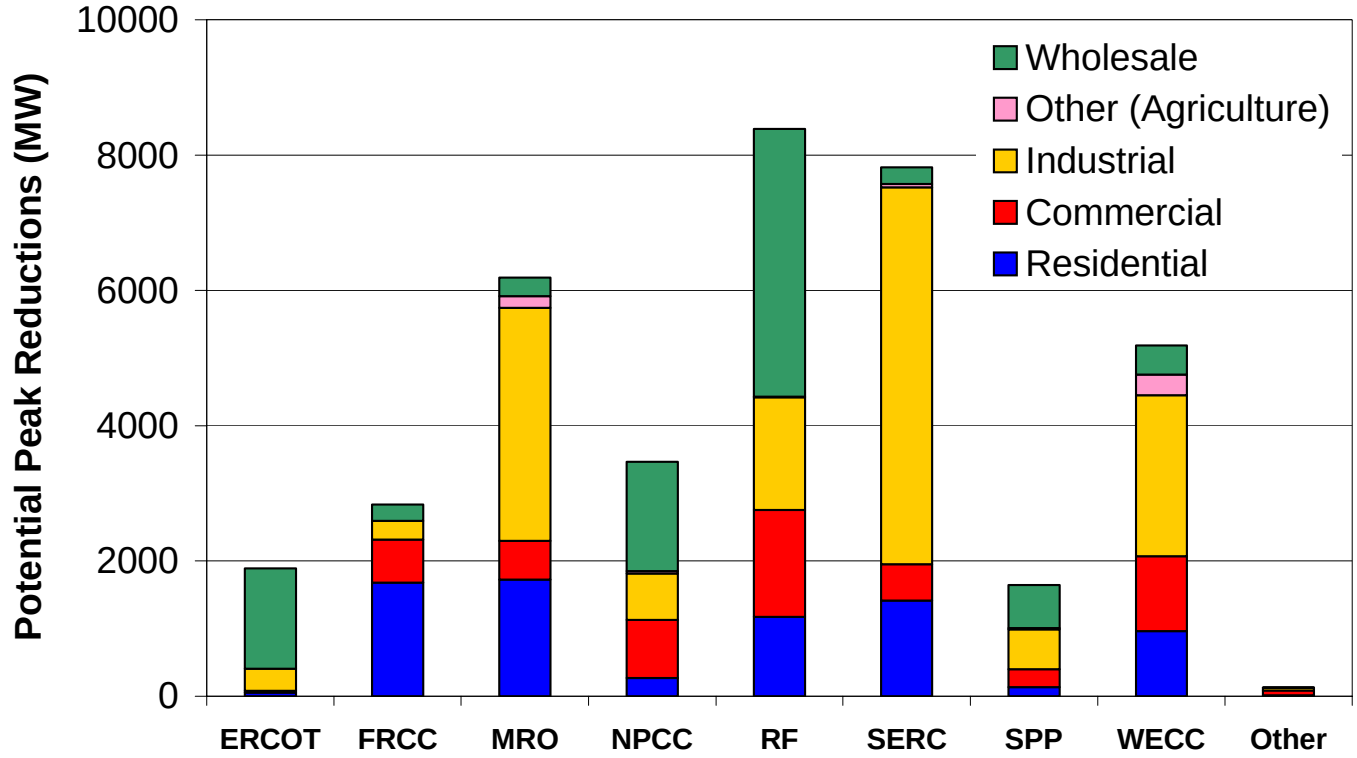
- Energy Efficiency funds from utility and public benefits administrators:
  ~ $2.5 Billion/year (~ 30 states)
- Renewable Energy funds spend:
  ~ $0.5 Billion/year (~ 20 states)
- Demand Response and Load Management programs:
  ~ $0.5 Billion/yr.
- Federal agencies use ~1.5% of nation's energy, so a proportional share of these funds would be:
  - ~ $20-40 Million for EE
  - ~ $5-10 Million for RE
  - ~ $5-10 Million for DR/LM

Demand Response targets System Reliability and Wholesale Market Volatility

- **The Old Paradigm: Load Management**
  - Interruptible/Curtailable (Non-Firm) Rates for C/I customers
    - Rate discounts for curtailments to pre-set Firm Service Level
    - Significant penalties for non-compliance
  - Direct Load Control
    - Utility control of customer end use loads (partial or complete interruption of air conditioners, water heaters, pool pumps)
- **The New Paradigm: Demand Response**
  - Emergency Demand Response
    - Customers provide load reductions in response to generation shortfalls or transmission constraints
  - Economic Demand Response (Demand Bidding)
    - Customers submit load reduction bids or simply respond to real-time prices
  - Dynamic Pricing (e.g., real-time pricing)

National DR Resource

(Customer Class)

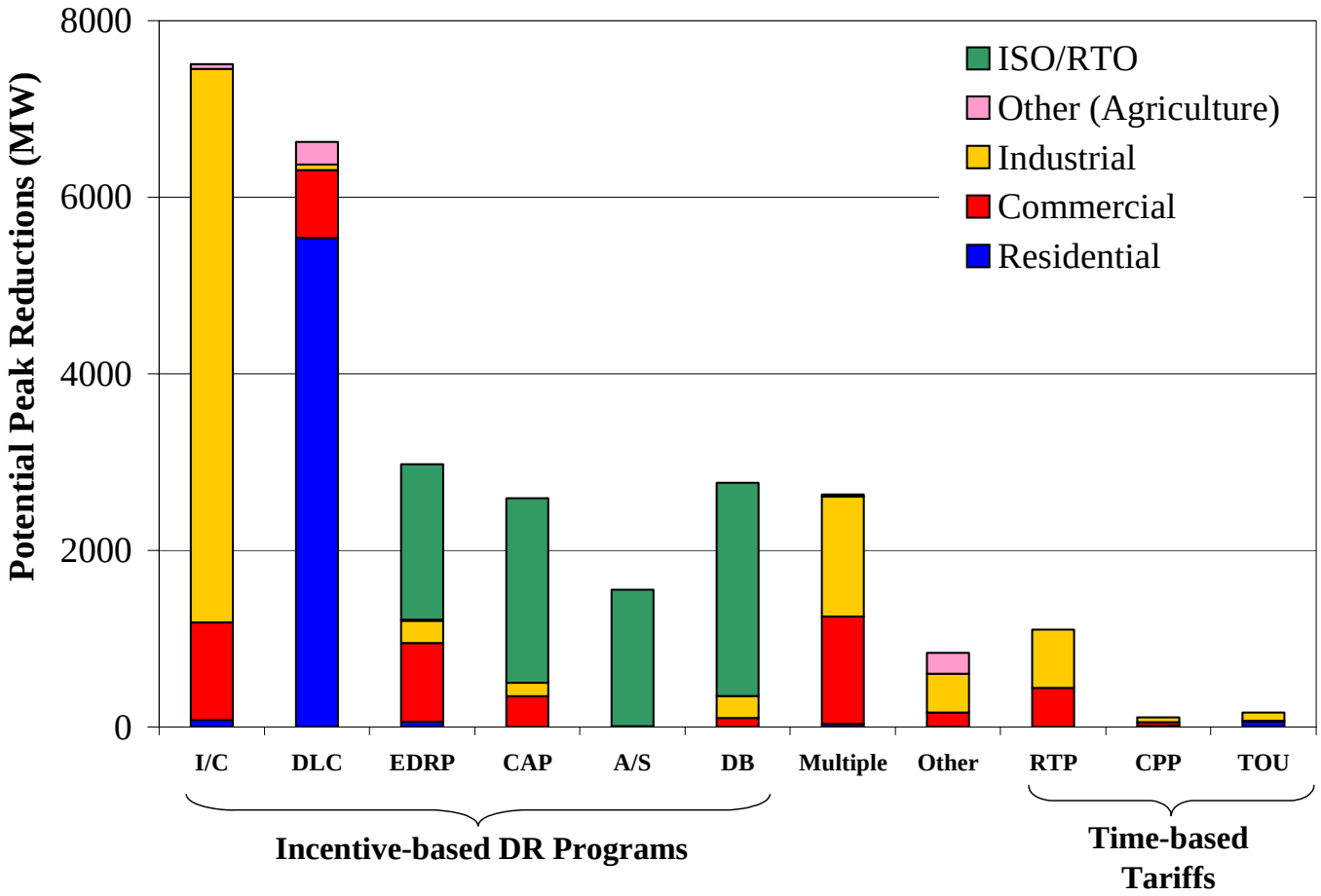


	ERCOT	FRCC	MRO	NPCC	RF	SERC	SPP	WECC	Other
As Percent of Summer 2006 Demand	3%	7%	20%	6%	4%	5%	4%	4%	N/A

- Existing demand response potential is ~37,500 MW
  - ~5% of summer 2006 peak demand

National DR Resource

(Program Type)



- Incentive-based DR programs account for 60-70% of DR resource contribution
  - ISO/RTO DR programs represent 9,000 MW

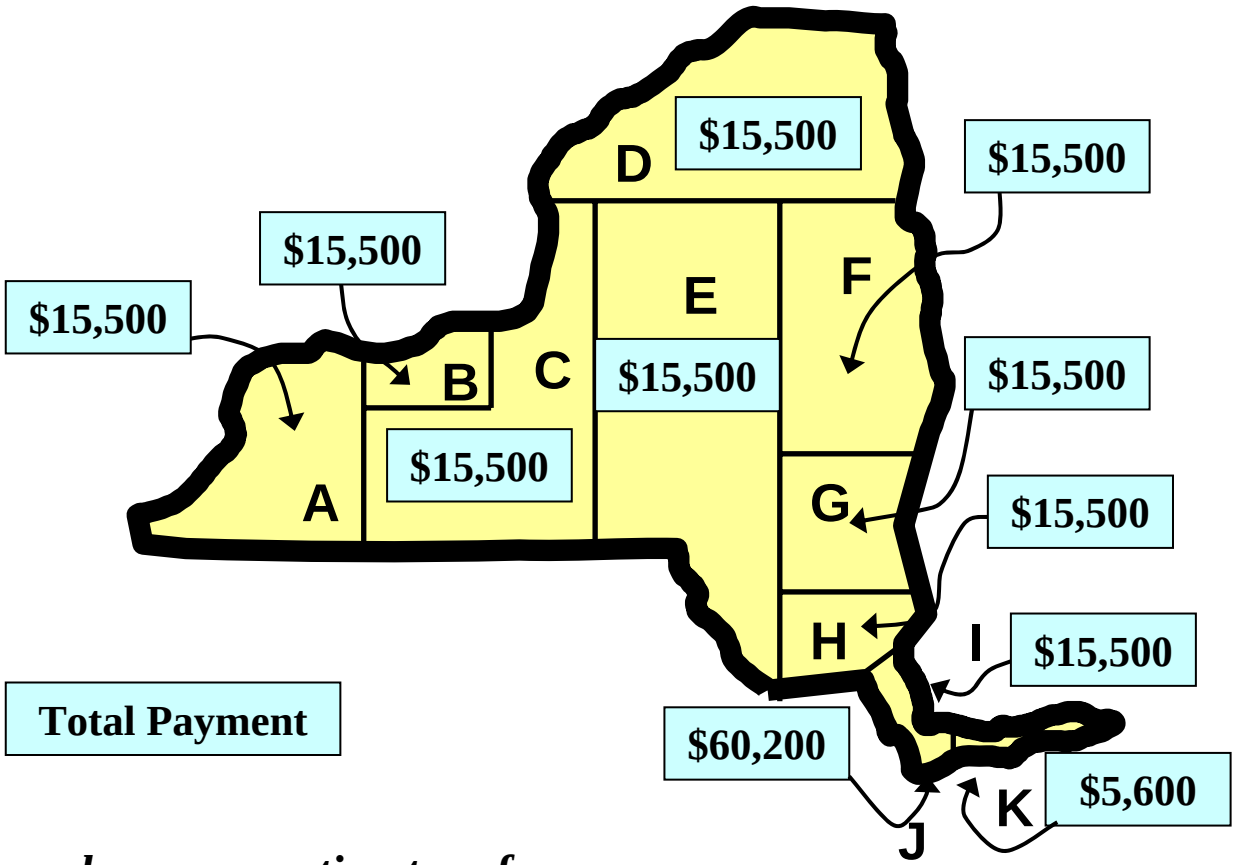
Largest Utility/ISO DR programs targeted to C/I customers

Entity	DR Resource (MW)
PJM Interconnection LLC	3951
Electric Reliability Council of Texas	1485
New York Independent System Operator	1379
Alabama Power Company	1288
Tennessee Valley Authority	1234
Arkansas Electric Cooperative Corporation	1066
Southern California Edison Company	881
Pacific Gas and Electric Company	722
Northern States Power Company	686
Florida Power and Light Company	580
Wisconsin Public Service Corporation	576
MidAmerican Energy Company	512
South Carolina Public Service Authority	507
Detroit Edison Company	435
Duke Power	431

Demand Response: How Much Money is on the Table?

New York ISO Emergency DR Program:

Payments for 1 MW Load Reduction (Summer 2002)



Values shown are estimates of program payments

U.S. Department of Energy
Energy Efficiency and Renewable Energy

Auto-DR Pilot: tests were conducted at 18 sites in 2003 & 2004

Including:

Albertsons – Supermarket, Oakland

BofA – Bank Office Building, Concord

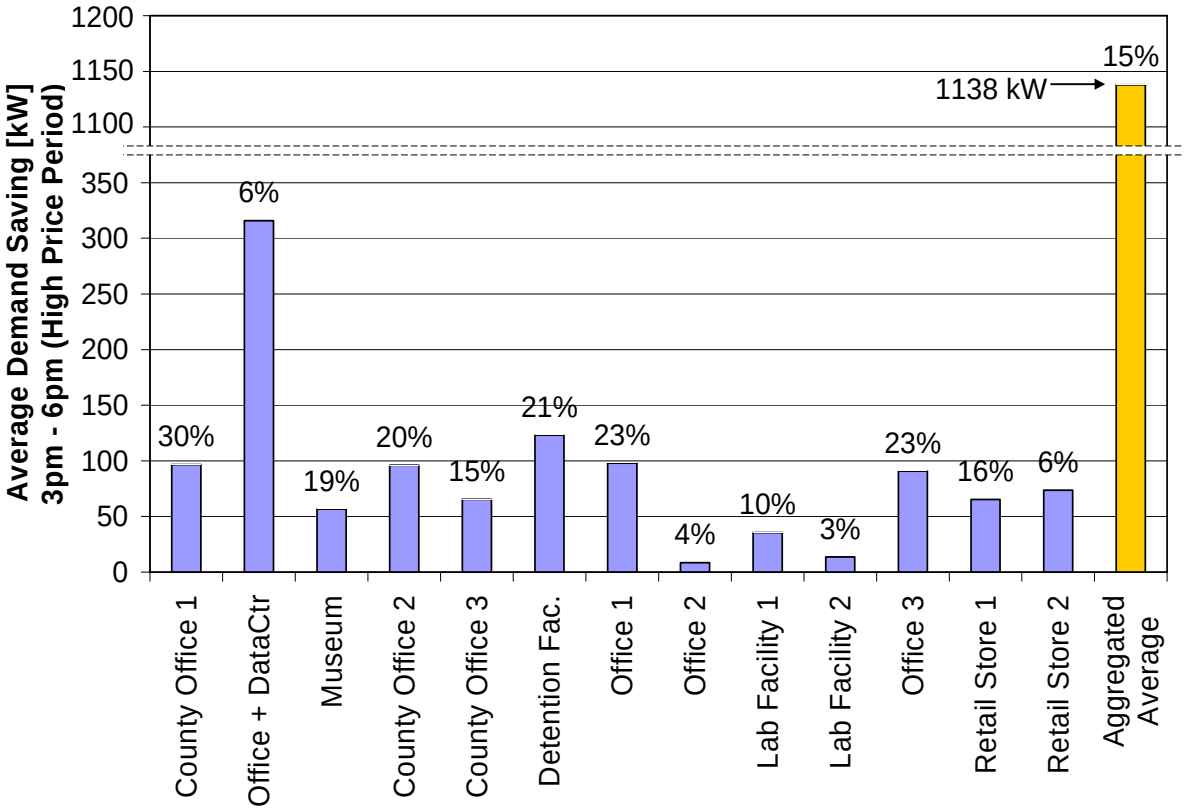
GSA – Gov't Office Building, Oakland

UCSB – College Campus Library, SB

Echelon – Office Building, San Jose

CA Automated-DR Pilot Results

2006 Results

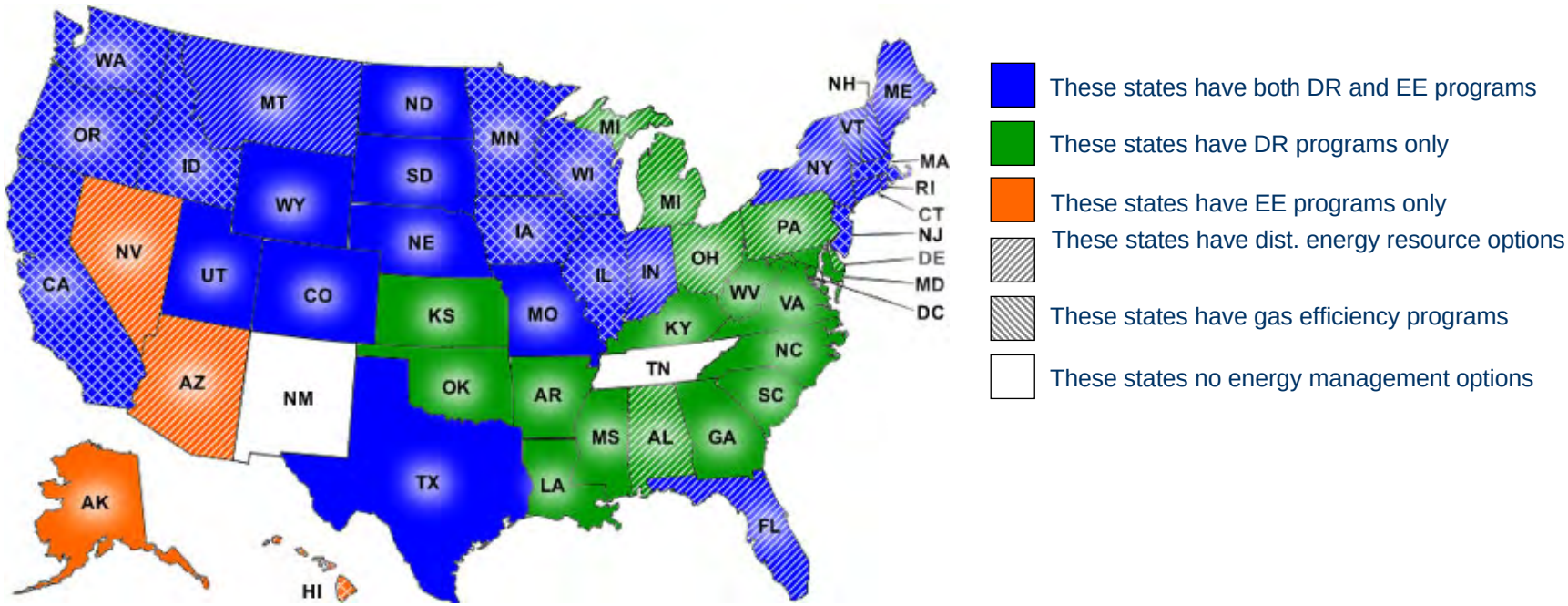


2003-2005 Results

	Number of sites	Avg. Savings (%)
2003	5	8
2004	18	7
2005	12	9

FEMP Energy Management Website: Energy Incentive Programs

www1.eere.energy.gov/femp/program/utility/utilityman_energymanage.html



- State-by-state information on funding opportunities for electric and gas energy efficiency, demand response, and DG programs
- Programs sponsored by Utilities, Public Benefits Fund Administrator, State Agencies, ISOs; summary description and Web link for each program
- Updated annually to reflect changes

Suggestions for Federal customers

- Time Horizon and Timing
  - Plan for long-term funding for EE, renewables, and RD&D (5-10 years) in some states
  - Funding is limited in many states (first-come,first serve
  - Check Program rules before starting project
- Develop inventory of EE & peak-demand reducing projects
- Demand Response – consider Auto-DR (it's coming)
- Assess opportunities for integration of EE, LM, & DG/renewable technologies, particularly at larger facilities
- FEMP's Utility Management web site can help you identify what's available in your state

Need More Information?

FEMP Energy Management Web site:

http://www1.eere.energy.gov/femp/program/utility/utilityman_energymanage.html

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